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EXAMINER	
ZERVIGON, RUDY	
ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/710,457	CONDRASHOFF ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,11-15,17 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,11-15,17 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 5, 6, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura; Hideaki et al. (US 6251216 B1) in view of Stark; Mark M. et al. (US 4786359 A). Okamura teaches an apparatus (Figure 1) for processing a substrate (12; Figure 1; column 5; lines 23-45) with a plasma, comprising: a first electrode (11; Figure 1; column 5; lines 23-45); a second electrode (13; Figure 1; column 5; lines 23-45); a separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) directly contacting said first electrode (11; Figure 1; column 5; lines 23-45) and directly contacting said second electrode (13; Figure 1; column 5; lines 23-45) and forming a sidewall (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) extending from said first electrode (11; Figure 1; column 5; lines 23-45) to said second electrode (13; Figure 1; column 5; lines 23-45), said separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) composed of a dielectric material capable of electrically isolating said first electrode (11; Figure 1; column 5; lines 23-45) from said second electrode (13; Figure 1; column 5; lines 23-45); a process region (volume within 25) formed by said separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3), said first electrode (11; Figure 1; column 5; lines 23-45) and said second electrode (13; Figure 1; column 5; lines 23-45); a process gas port (14; Figure 1; column 5; lines 23-45) for introducing a process gas to said processing region (inside volume 25); a vacuum port (22; Figure 1; column 5; lines 23-45) for evacuating said processing region (inside volume 25) to a pressure suitable for generating the plasma from the

process gas in said processing region (inside volume 25), a shell (10a,b; Figure 1) surrounding said first electrode (11; Figure 1; column 5; lines 23-45), said second electrode (13; Figure 1; column 5; lines 23-45), and said separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) - claim 1

Okamura further teaches:

i. The apparatus (Figure 1) of claim 1 further comprising: a vacuum pump (23; Figure 1; column 5; lines 23-45) coupled with said vacuum port (22; Figure 1; column 5; lines 23-45) and operative for evacuating said processing region (inside volume 25) to said pressure suitable for generating the plasma from the process gas in said processing region (inside volume 25), as claimed by claim 5

ii. The apparatus (Figure 1) of claim 1 further comprising: a process gas supply (16) coupled with said process gas port (14; Figure 1; column 5; lines 23-45) for introducing the process gas to said processing region (inside volume 25), as claimed by claim 6

iii. The apparatus of claim 1 wherein said first electrode (11; Figure 1; column 5; lines 23-45) is adapted to support the substrate (12; Figure 1; column 5; lines 23-45) in said processing region (inside volume 25), as claimed by claim 18

Okamura does not teach:

i. a vacuum port (22; Figure 1; column 5; lines 23-45) in said first electrode (11; Figure 1; column 5; lines 23-45) – claim 1

ii. an *electrically conductive* shell (10a,b; Figure 1) - claim 1

iii. an atmospheric pressure space between said shell (10a,b; Figure 1) and said first electrode (11; Figure 1; column 5; lines 23-45), said second electrode (13; Figure 1;

column 5; lines 23-45), and said separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) – claim 1. The Examiner argues that because elements 25, 10a, and 10b are all separate units as shown, *there should exist a gap* at the 25/10a interface and the 25/10b interface. Such a featureis not explicitly shown and neither is the "atmospheric pressure space".

Stark teaches an apparatus (Figure 4) for processing a substrate (44; Figure 4; column 3; lines 9-61) with a plasma, comprising: a first electrode (42; Figure 4; column 3; lines 40-45); a second electrode (48; Figure 4; column 3; lines 20-30); a separating member (51; Figure 4; column 3; line 36) directly contacting said first electrode (42; Figure 4; column 3; lines 40-45) and directly contacting said second electrode (48; Figure 4; column 3; lines 20-30) and forming a sidewall (51; Figure 4; column 3; line 36) extending from said first electrode (42; Figure 4; column 3; lines 40-45) to said second electrode (48; Figure 4; column 3; lines 20-30), said separating member (51; Figure 4; column 3; line 36) composed of a dielectric material ("insulating", column 3; line 36) capable of electrically isolating said first electrode (42; Figure 4; column 3; lines 40-45) from said second electrode (48; Figure 4; column 3; lines 20-30); a process region (41; Figure 4; column 3; lines 40-45) formed by said separating member (51; Figure 4; column 3; line 36), said first electrode (42; Figure 4; column 3; lines 40-45) and said second electrode (48; Figure 4; column 3; lines 20-30); a process gas port (not shown; column 3; lines 20-30) for introducing a process gas to said processing region; a vacuum port (not shown; column 3; lines 20-30) in said first electrode (42; Figure 4; column 3; lines 40-45) for evacuating said processing region to a pressure suitable for generating the plasma from the process gas in said processing region.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for Okamura to replace Okamura's first electrode (11; Figure 1; column 5; lines 23-45) with Stark's first electrode (42; Figure 4; column 3; lines 40-45) having a vacuum port (not shown; column 3; lines 20-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for Okamura to establish an "atmospheric pressure space" between 25/10a interface and the 25/10b interface *based on the process for making* Okamura's apparatus.

Motivation for Okamura to replace Okamura's first electrode (11; Figure 1; column 5; lines 23-45) with Stark's first electrode (42; Figure 4; column 3; lines 40-45) having a vacuum port (not shown; column 3; lines 20-30) is for generating lower pressure prococesses.

Motivation for Okamura to establish an "atmospheric pressure space" between 25/10a interface and the 25/10b interface *based on the process for making* Okamura's apparatus is for reducing product-by-process manufacturing costs.

3. Claims 2, and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura; Hideaki et al. (US 6251216 B1) and Stark; Mark M. et al. (US 4786359 A) in view of Shan; Hong Ching et al. (US 5891350 A). Okamura and Stark are described above. Okamura and Stark do not teach:

i. The apparatus (Figure 1) of claim 1 further comprising: a vacuum manifold coupled with said vacuum port (22; Figure 1; column 5; lines 23-45), said vacuum manifold being electrically isolated from said first electrode (11; Figure 1; column 5; lines 23-45) and said second electrode (13; Figure 1; column 5; lines 23-45), as claimed by claim 2

ii. The apparatus (Figure 1) of claim 2 wherein said vacuum manifold includes an enclosed volume proximate to said vacuum port (22; Figure 1; column 5; lines 23-45) and further comprising: an insert of an electrically insulating material ("synthetic quartz"; column 6; lines 1-3) positioned inside said enclosed volume, said insert including a first plurality of passages coupling said vacuum manifold with said vacuum port (22; Figure 1; column 5; lines 23-45), as claimed by claim 3

Shan teaches:

iv. The apparatus (Figure 1,3 - see common numbers) of claim 1 further comprising: a vacuum manifold (70, Figure 4; column 15; line 62 - column 16, line25) coupled with said vacuum port (50, Figure 1,3; column 3; lines 30-45), said vacuum manifold (70, Figure 4; column 15; line 62 - column 16, line25) being electrically isolated from said first electrode (30; Figure 1,3; column 3; lines 34-41) and said second electrode (24," A_{anode}"; Figure 1,3; column 7; lines 1-15), as claimed by claim 2

v. The apparatus (Figure 1,3 - see common numbers) of claim 2 wherein said vacuum manifold (70, Figure 4; column 15; line 62 - column 16, line25) includes an enclosed volume proximate to said vacuum port (50, Figure 1,3; column 3; lines 30-45) and further comprising: an insert (74, 76, or 78; Figure 4; column 15; line 62 - column 16, line25) of an electrically insulating material (column 16, lines 16-25) positioned inside said

enclosed volume, said insert (74, 76, or 78; Figure 4; column 15; line 62 - column 16, line25) including a first plurality of passages (72 in 74; Figure 4; column 15; line 62 - column 16, line25) coupling said vacuum manifold (70, Figure 4; column 15; line 62 - column 16, line25) with said vacuum port (50, Figure 1,3; column 3; lines 30-45), as claimed by claim 3

It would have been obvious to one of ordinary skill in the art at the time the invention was made for Okamura to add Shan's exhaust inserts (74, 76, or 78; Figure 4; column 15; line 62 - column 16, line25).

Motivation for Okamura to add Shan's exhaust inserts (74, 76, or 78; Figure 4; column 15; line 62 - column 16, line25) is for "reducing the deposition of unwanted particles on the exhaust pump componentd" as taught by Shan (abstract), and for "protecting the top perimeter of the cathode from exposure to plasma" as taught by Shan (column 4; lines 21-25).

4. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura; Hideaki et al. (US 6251216 B1) and Stark; Mark M. et al. (US 4786359 A) in view of Suntola; Tuomo et al. (US 5711811 A) and Maher, Jr.; Joseph A. et al. (US 4381965 A). Okamura and Stark are disccused above. Okamura and Stark do not teach:

i. An apparatus (Figure 1) for plasma processing a plurality of substrates (12; Figure 1; column 5; lines 23-45), the apparatus comprising: a first electrode (11; Figure 1; column 5; lines 23-45); a second electrode (13; Figure 1; column 5; lines 23-45) positioned with a spaced apart relationship relative to said first electrode (11; Figure 1; column 5; lines 23-45); a third electrode positioned between said first electrode (11; Figure 1; column 5; lines 23-45) and said second electrode (13; Figure 1; column 5; lines 23-45); a first

separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) directly contacting said first electrode (11; Figure 1; column 5; lines 23-45) and directly contacting said third electrode forming a first sidewall extending between said first electrode (11; Figure 1; column 5; lines 23-45) and said third electrode, said first electrode (11; Figure 1; column 5; lines 23-45) configured to support one of the plurality of substrates (12; Figure 1; column 5; lines 23-45) in said first processing region (inside volume 25) for plasma processing, and said first separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) comprising a dielectric material ("synthetic quartz"; column 6; lines 1-3) for electrically isolating said first electrode (11; Figure 1; column 5; lines 23-45) from said third electrode; a first processing region formed by said first separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3), said first electrode (11; Figure 1; column 5; lines 23-45), and said third electrode; a second separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) directly contacting said second electrode (13; Figure 1; column 5; lines 23-45) and directly contacting said third electrode forming a second sidewall extending between said second electrode (13; Figure 1; column 5; lines 23-45) and said third electrode, said second electrode configured to support one of the plurality of substrates (12; Figure 1; column 5; lines 23-45) in said second processing region (inside volume 25) for plasma processing, and said second separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) comprising a dielectric material for electrically isolating said second electrode (13; Figure 1; column 5; lines 23-45) from said third electrode; a second processing region formed by said second member, said second electrode (13; Figure 1; column 5; lines 23-

45), and said third electrode at least one process gas port (14; Figure 1; column 5; lines 23-45) configured for introducing a process gas to said first processing region (inside volume 25) and second processing region (inside volume 25); a vacuum port (22; Figure 1; column 5; lines 23-45) in said first electrode (11; Figure 1; column 5; lines 23-45) for evacuating said first and second processing regions (inside volume 25) to a sub-atmospheric pressure suitable for generating the plasma from the process gas in said first processing region (inside volume 25) and said second processing region (inside volume 25), an electrically conductive shell (10a,b; Figure 1) surrounding said first electrode (11; Figure 1; column 5; lines 23-45), said second electrode (13; Figure 1; column 5; lines 23-45), said third electrode, said first separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3), and said second separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3); and an atmospheric pressure space between said shell (10a,b; Figure 1) and said first electrode (11; Figure 1; column 5; lines 23-45), said second electrode (13; Figure 1; column 5; lines 23-45), said third electrode, said first separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3), and said second separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) - claim 15

ii. The apparatus (Figure 1) of claim 15 wherein said first electrode (11; Figure 1; column 5; lines 23-45) includes a first process gas port (14; Figure 1; column 5; lines 23-45) for introducing the process gas to said first processing region (inside volume 25) and said third electrode includes a second process gas port (14; Figure 1; column 5; lines 23-45)

for introducing the process gas to said second processing region (inside volume 25), as claimed by claim 17

Suntola teaches:

i. An apparatus (Figure 3) for plasma (column 1; lines 42-44) processing a plurality of substrates (37; Figure 3), comprising: a first separating member (32; Figure 3; column 11, lines 23-27) for forming a vacuum-tight seal between a first chamber (38; Figure 3) and a second chamber (38; Figure 3) and defining a first evacuatable processing region (38; Figure 3) between a first chamber (38; Figure 3) and a second chamber (38; Figure 3), a first chamber (38; Figure 3) configured to support one of the plurality of substrates (37; Figure 3) in first processing region (38; Figure 3) for plasma (column 1; lines 42-44) processing, and said first separating member (32; Figure 3; column 11, lines 23-27) electrically isolating a first chamber (38; Figure 3) from a second chamber (38; Figure 3); a second separating member (32; Figure 3; column 11, lines 23-27) for forming a vacuum-tight seal between a third chamber (38; Figure 3) and a second chamber (38; Figure 3) to define a second evacuatable processing region (38; Figure 3) between a third chamber (38; Figure 3) and a second chamber (38; Figure 3), a second chamber (38; Figure 3) configured to support one of the plurality of substrates (37; Figure 3) in said second processing region (38; Figure 3) for plasma (column 1; lines 42-44) processing, and said second separating member (32; Figure 3; column 11, lines 23-27) electrically isolating a third chamber (38; Figure 3) from a second chamber (38; Figure 3); at least one process gas port (28, 30; Figure 3) for introducing a process gas to first processing region (38; Figure 3) and second processing region (38; Figure 3); and a vacuum port

(25; Figure 3) for evacuating said processing region (inside volume 25) to a pressure suitable for generating the plasma (column 1; lines 42-44) from the process gas in first processing region (38; Figure 3) and said second processing space (38; Figure 3) - claim 15

ii. The apparatus (Figure 3) of claim 15 wherein a first chamber (38; Figure 3) includes a first process gas port (28, 30; Figure 3) for introducing the process gas to first processing region (38; Figure 3) and a second chamber (38; Figure 3) includes a second process gas port (28, 30; Figure 3) for introducing the process gas to said second process region (volume within 25), as claimed by claim 17

Maher teaches a wafer plasma processing apparatus (Figure 4) including plural parallel electrodes 19a,b-25a,b each interposed between insulating dielectric layers 19c-25c.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add Suntola's apparatus (Figure 3) with Maher's plasma generating means to Okamura's apparatus.

Motivation to add Suntola's apparatus (Figure 3) with Maher's plasma generating means to Okamura's apparatus includes, among plural motivations, for plasma processing as taught by Suntola (column 1; lines 42-44), and for processing plural substrates for greater through-put compared to Okamura as taught by Suntola.

5. Claims 4, 7, and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura; Hideaki et al. (US 6251216 B1) and Stark; Mark M. et al. (US 4786359 A) in view of Shan; Hong Ching et al. (US 5891350 A) and Hirooka; Takaaki (US 6700089 B1). Okamura, Stark, and Shan are discussed above. Okamura, Stark, and Shan do not teach:

i. The apparatus (Figure 1) of claim 3 wherein said vacuum port (22; Figure 1; column 5; lines 23-45) is defined by a second plurality of passages extending through said first electrode (11; Figure 1; column 5; lines 23-45) and registered with said first plurality of passages, as claimed by claim 4

ii. The apparatus (Figure 1) of claim 1 wherein said second electrode (13; Figure 1; column 5; lines 23-45) includes a plurality of openings arranged in a pattern effective for communicating process gas from said process gas port (14; Figure 1; column 5; lines 23-45) to said processing region (inside volume 25), as claimed by claim 7

iii. The apparatus (Figure 1) of claim 1 wherein said shell (10a,b; Figure 1) includes a base and a lid movable relative to said lid between opened and closed positions for accessing said processing region (inside volume 25), said lid carrying said second electrode for movement relative to said base, as claimed by claim 11

iv. The apparatus (Figure 1) of claim 1 further comprising a coolant port in said lid for supplying a flow of a coolant fluid to said atmospheric pressure space for cooling said first electrode (11; Figure 1; column 5; lines 23-45) and said second electrode (13; Figure 1; column 5; lines 23-45), as claimed by claim 12

v. The apparatus (Figure 1) of claim 1 wherein said second electrode (13; Figure 1; column 5; lines 23-45) includes said process gas port (14; Figure 1; column 5; lines 23-45), as claimed by claim 13

vi. The apparatus (Figure 1) of claim 13 wherein said second electrode (13; Figure 1; column 5; lines 23-45) includes a plurality of gas openings coupled with said process gas port (14; Figure 1; column 5; lines 23-45), said plurality of gas openings positioned in said

second electrode (13; Figure 1; column 5; lines 23-45) to distribute process gas across a confronting surface of the substrate (12; Figure 1; column 5; lines 23-45), as claimed by claim 14

Hirooka teaches a plasma processing apparatus (Figure 1,2) including:

i. The apparatus (Figure 1,2) of claim 3 wherein a vacuum port (128; Figure 1,2) is defined by a second plurality of passages (126; Figure 1,2) extending through a first electrode (108+126; Figure 1) - claim 4

ii. The apparatus (Figure 1,2) of claim 1 wherein a second electrode (124; Figure 2) includes a plurality of openings (124a; Figure 2) arranged in a pattern effective for communicating process gas from a process gas port (194; Figure 2) to a processing region (102; Figure 2), as claimed by claim 7

iii. The apparatus (Figure 1,2) of claim 10 wherein a enclosure includes a base (104; Figure 2) and a lid (206; Figure 2,3a) movable relative to a lid (206; Figure 2,3a) between opened and closed positions for accessing a processing region (102; Figure 2), a lid (206; Figure 2,3a) carrying a first electrode (108+126; Figure 1) for movement relative to a base (104; Figure 2), as claimed by claim 11

iv. The apparatus (Figure 1,2) of claim 10 further comprising a coolant port (172c; Figure 2) in a lid (206; Figure 2,3a) for supplying a flow of a coolant fluid to a air gap (172c; Figure 2) for cooling a first electrode (108+126; Figure 1) and a second electrode (124; Figure 2), as claimed by claim 12

v. The apparatus (Figure 1,2) of claim 1 wherein a first electrode (108+126; Figure 1) includes a vacuum port (128; Figure 1,2) and a second electrode (124; Figure 2) includes a process gas port (194; Figure 2), as claimed by claim 13

vi. The apparatus (Figure 1,2) of claim 13 wherein a second electrode (124; Figure 2) includes a plurality of gas openings (124a; Figure 2) coupled with a process gas port (194; Figure 2), a plurality of gas openings (124a; Figure 2) positioned in a second electrode (124; Figure 2) to distribute process gas across a confronting surface of the substrate (12; Figure 1; column 5; lines 23-45), as claimed by claim 14

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Okamura's lid and lower electrode with Hirooka's lid and lower electrode.

Motivation to replace Okamura's lid and lower electrode with Hirooka's lid and lower electrode is for improved hermiticity and operating speed (Hirooka:column 2; lines 10-27), and for wafer temperature control (Hirooka:column 7; lines 1-3), respectively.

Response to Arguments

6. Applicant's arguments filed July 2, 2009 have been fully considered but they are not persuasive.

7. Applicant states:

"

The Examiner contends in the Office Action that Stark teaches "a vacuum port (not shown; column 3, lines 20-30) in said first electrode (42; Figure 4; column 3, lines 40-45) for evacuating said processing region (inside volume 25)". Stark discloses that the "lower electrode 42 can comprise suitable passageways, known per se in the art, for controlling the temperature thereof'. Applicants cannot locate a reference numeral 25 for a volume that the Examiner identifies in Stark. Nevertheless, Stark fails to disclose that these passageways in any way communicate with the processing region in Stark that is generally between the electrodes 42, 43 or that these passageways are used to evacuate the processing region.

"

8. In response, Applicant has indeed found the correct correspondance for Stark's "processing region" as being generally between the electrodes 42, 43. Such would conclude persons of ordinary skill in the art. Further, the Examiner cannot find any reference in the claims for the argued language – "passageways in any way communicate with the processing region". In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057

(Fed. Cir. 1993). The Examiner's grounds of rejection clearly state that it would have .... for Okamura to replace Okamura's first electrode (11; Figure 1; column 5; lines 23-45) with Stark's first electrode (42; Figure 4; column 3; lines 40-45) having a vacuum port (not shown; column 3; lines 20-30). As such, the Examiner has not made any reference in his rejection for the argued lanaguage.

9. Applicant states:

"

The Examiner further contends on page 5 that the motivation for this modification to Okarnura based upon Stark is "for generating lower pressure prococesses (sic)". To the contrary, a person having ordinary skill in the art would appreciate that any fluid used to regulate the temperature of the lower electrode (42) is not exhausted into the processing region. The processing space has a very controlled environment of pressure and process gas for conducting the process that is transpiring between the electrodes (42, 43) in Stark. For example, Stark discloses the process gas is a mixture of xenon or krypton gas, oxygen, and CF3Br introduced with specific flow rates and a specific chamber pressure. See col. 3, line 63 - col. 4, line 50. Hence, the passageways in the lower electrode (42) would not communicate with the processing region. Moreover, even if an attempt were made to modify the passageways in the lower electrode (42) in Stark for use as vacuum ports (which Applicants dispute is even possible), the wafer (44) and ring (46) cover the surface of the lower electrode (42) such that any such passageways would be closed by the wafer (44) and ring (46). The modified passageways would be incapable of functioning as vacuum ports because they would be blocked by the wafer (44) and ring (46). Consequently, the

proposed modification to Okamura is not objectively supported by the disclosure in Stark or by the knowledge of a person having ordinary skill in the art.

“

In response, the Examiner has made no such position in this and prior actions. Again, the Examiner’s stated position for the combination is that it would have …. for Okamura to replace Okamura’s first electrode (11; Figure 1; column 5; lines 23-45) with Stark’s first electrode (42; Figure 4; column 3; lines 40-45) having a vacuum port (not shown; column 3; lines 20-30). As such, the Examiner has not made any reference to any of the suggested alterations or results Applicant has proposed above. The Examiner believes that the proposed combination would necessarily function in the manner that both Okamura and Stark teach as disclosed.

Applicant states:

“

The Examiner contends that "it would have been obvious to one of ordinary skill in the art at the time the invention was made for Okamura to establish 'an atmospheric pressure space' between 25/10a interface based on the process for making Okamura's apparatus". Okamura discloses that "[t]he first embodiment is characterized in that the main members of the reaction chamber 10, namely, upper bottom 10a, lower bottom 10b, sidewall 10c, sample stage 11 (except for the substrate holding portion 1 la) and periphery of the upper electrode 13, are covered with synthetic quartz protective members 25". See col. 5, line 64- col. 6, line 2. Specifically, Okamura fails to disclose how the protective members 25 "cover" the main members of the reaction chamber 10. Hence, the Examiner must be contending that this is inherent in Okamura.

“

As claimed, Okamura's separating member (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) are clearly shown as covering/contacting the claimed "first electrode (11; Figure 1; column 5; lines 23-45) and directly contacting said second electrode (13; Figure 1; column 5; lines 23-45) and forming a sidewall (25; Figure 1 - "synthetic quartz"; column 6; lines 1-3) extending from said first electrode (11; Figure 1; column 5; lines 23-45) to said second electrode (13; Figure 1; column 5; lines 23-45)". Further, the Examiner is by no means taking the position that anything in the Examiner's statements of equivalents is inherent. In fact, if the Examiner believed a claimed feature were inherent he would specifically say as such. The Examiner's rejection are clear statements of what is and is not taught in the cited prior art.

Applicants further state:

"

…incorporates gaps between the protective members (25) and the main members of reaction chamber (10) that could be at atmospheric pressure. Moreover, even if gaps were present (which Applicants refute), the vacuum envelope of the reaction chamber is defined by the space inside the main members of the reaction chamber (10). The protective members (25) are disposed in the space inside the main members of the reaction chamber (10). Hence, even if gaps were present, these gaps would be at the same vacuum as the space inside the reaction chamber (10); not at atmospheric pressure. Hence, the reasoning in the Office Action is not objective that leads the Examiner to conclude that an atmospheric pressure space could be established between the "25/10a interface" based on the process for making Okamura's apparatus…

"

10. In response, the Examiner's statement that Okamura does not teach in part – "an atmospheric pressure space between said shell (10a,b; Figure 1) and said first electrode (11; Figure 1; column 5; lines 23-45)" and further that said space would be obvious t one of ordinary skill in that art establishes the Examiner's grounds of rejection. In response to Applicant's position that the Examiner has not established grounds for motivation, In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner's statement that motivation for Okamura to establish an "atmospheric pressure space" between 25/10a interface and the 25/10b interface *based on the process for making* Okamura's apparatus is for reducing product-by-process manufacturing costs.

Applicant's remaining arguments at pages 5-6

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272-1442. The examiner can normally be reached on a Monday through Friday schedule from 9am

through 5pm. The official fax phone number for the 1792 art unit is (571) 273-8300. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435

/Rudy Zervigon/

Primary Examiner, Art Unit 1792